

orthogonal cover is zero, the pilot reference can be obtained by accumulating the despread samples over the width of each pilot burst. Pilot processing in a CDMA-based system is described in further detail in U.S. Pat. No. 5,764,687, entitled “MOBILE DEMODULATOR ARCHITECTURE FOR A SPREAD SPECTRUM MULTIPLE ACCESS COMMUNICATION SYSTEM,” assigned to the assignee of the invention and incorporated herein by reference.

Processor core 540 performs the call processing, modem initialization, and monitoring functions, and further performs the data processing and handling functions for access terminal 106x. Interface unit 550 provides interconnection between access terminal 106x and peripheral devices (e.g., a computer). Status indicators 560 provide indications of the operating state and conditions of access terminal 106x.

The elements of access terminal 106x are described in further detail in the aforementioned U.S. patent application Ser. No. 09/575,073.

The elements of the access points and access terminals can be implemented in various manners. For example, these elements can be implemented using one or more application specific integrated circuits (ASICs), digital signal processors (DSPs), micro-controllers, microprocessors, other electronic circuits designed to perform the functions described herein, or a combination thereof. Also, some of the functions described herein can be implemented with a general-purpose processor or a specially designed processor operated to execute instruction codes that achieve the functions described herein. Thus, the elements of the access points and access terminals described herein can be implemented using hardware, software, or a combination thereof.

The foregoing description of the preferred embodiments is provided to enable any person skilled in the art to make or use the present invention. Various modifications to these embodiments will be readily apparent to those skilled in the art, and the generic principles defined herein may be applied to other embodiments without the use of the inventive faculty. Thus, the present invention is not intended to be limited to the embodiments shown herein but is to be accorded the widest scope consistent with the principles and novel features disclosed herein.

What is claimed is:

1. A method for transmitting pilot references from a plurality of transmission sources, the method comprising:

generating at a first transmission source of the plurality of transmission sources a first pilot burst;

transmitting the first pilot burst during a time period during which no user data is transmitted by the plurality of transmission sources, the transmission of the first pilot burst being synchronized with a common system time reference, and wherein the time period of the transmission of the first pilot burst at least partially overlaps with a transmission time period of a second pilot burst from a second transmission source of the plurality of transmission sources;

receiving a connection request from an access terminal based on link conditions between the plurality of transmission sources and the access terminal, the connection request comprising a requested data rate for transmissions to the access terminal, the requested data rate representing a maximum data rate for the transmissions to the access terminal; and

transmitting user data to the access terminal at the requested data rate.

2. The method of claim 1, wherein the first pilot burst is transmitted at predetermined time intervals.

3. The method of claim 1, wherein the first pilot burst has a predefined width.

4. The method of claim 1, wherein the first pilot burst is transmitted at or near a maximum transmit power level.

5. The method of claim 1, further comprising: withholding data transmission during transmission of the first pilot burst.

6. The method of claim 1, further comprising: processing pilot data in accordance with a particular processing scheme such that a pilot reference is differentiated from pilot references from other transmission sources.

7. The method of claim 6, wherein the processing comprises:

spreading the pilot data with a pseudo-noise (PN) sequence at a particular offset that is different from offsets for other transmission sources.

8. The method of claim 1, further comprising: continuing transmission of the first pilot burst even if no data is to be transmitted.

9. The method of claim 1, wherein transmission occurs over slots, and wherein each slot covers a particular time period and includes a particular number of pilot bursts.

10. The method of claim 9, wherein each slot includes two pilot bursts.

11. The method of claim 9, wherein each pilot burst is associated with a respective portion of a slot and positioned in the center of the associated portion.

12. The method of claim 9, further comprising: padding both sides of each pilot burst in an idle slot with additional transmissions of at least a particular minimum period.

13. The method of claim 1, further comprising: receiving one or more signals from a Global Positioning System (GPS) satellite constellation; and deriving the common system time reference using the one or more received signals.

14. The method of claim 1, further comprising: selecting a duration of a first transition period immediately preceding the first pilot burst and a duration of a second transition period immediately following the first pilot burst, the duration of the first transition period and the duration of the second transition period being selected to ensure that each pilot burst reaches a steady state value associated with the pilot burst for the duration of the pilot burst; and transmitting data during the first transition period immediately preceding the first pilot burst and during the second transition period immediately following the first pilot burst.

15. The method of claim 14 wherein selecting the duration of the first transition period and the duration of the second transition period comprises selecting the duration of the first transition period and the second transition period based at least in part on a step response of at least one filter used to filter pilot data prior to transmission.

16. A method for transmitting pilot references from a plurality of transmission sources, the method comprising:

generating at a first transmission source of the plurality of transmission sources a first pilot burst;

transmitting the first pilot burst at predetermined time intervals during which no user data is transmitted by the plurality of transmission sources, the transmission of the first pilot burst being synchronized with a common system time reference, and wherein a time period of the transmission of the first pilot burst at least partially over-